Administrative Unit: Computer and Mathematical Sciences Department

Course Prefix and Number: CISS 472

Course Title: Data Warehousing and Decision Support Systems

Number of Credit Hours: 3 Lecture Hours: 3 Laboratory Hours: 0

Catalog Description: An investigation of data warehousing, data mining, and decision support systems. Topics include design and architectural issues, cost effectiveness, management concerns, data integrity, deployment, and maintenance issues. Prerequisite: CISS 430. Offered Fall.

Prerequisite(s)/Corequisite(s): CISS 430.


Course Objectives:

• To learn data mining and decision support fundamentals and techniques.
• To understand data collection, cleaning, and aggregation issues.
• To construct meaningful multi-dimensional models.
• To investigate data warehousing issues.
• To utilize a data mining query language.
• To learn statistical techniques for analyzing data.
• To utilize decision trees in data analysis.
• To investigate cluster analysis.

Measurable Learning Outcomes:

• Characterize a data warehouse.
• Describe data warehousing architectures.
• Discuss data clearing and reduction issues.
• Utilize a data mining query language.
• Employ statistical measures in data analysis.
• Explain data mining association rules.
• Utilize decision tree techniques for data analysis.
• Perform cluster analysis.

Topical Outline (major areas of coverage):

• Data warehousing techniques and issues.
• Data preprocessing.
• Data reduction.
• Data cleaning.
• Query languages for data mining.
• Developing mining association rules.
• Data classification and prediction techniques.
• Cluster analysis.
• Ethical issues in data mining.
Recommended maximum class size for this course: 20

Library Resources: Online databases are available at http://www.ccis.edu/offices/library/resources.asp. You may access them from off-campus using your eServices login and password when prompted.

Prepared by: Lawrence West

Date: September 12, 2005

NOTE: The intention of the master syllabus is to provide an outline of the contents of this course, as specified by the faculty of Columbia College, regardless of who teaches the course, when it is taught or where it is taught. Faculty members teaching this course for Columbia College are expected to facilitate learning pursuant to the course objectives and cover the subjects listed in the topical outline. However, instructors are also encouraged to cover additional topics of interest so long as those topics are relevant to the course’s subject. The master syllabus is, therefore, prescriptive in nature but also allows for a diversity of individual approaches to course material.

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